

Jun 6th, 2:10 PM - 2:30 PM

## Session C5 - Initiating Dam Removal Projects

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# **Initiating Dam Removals: Two Case Studies from North Carolina**

Lynnette Batt

Associate Director, River Restoration, SE Region



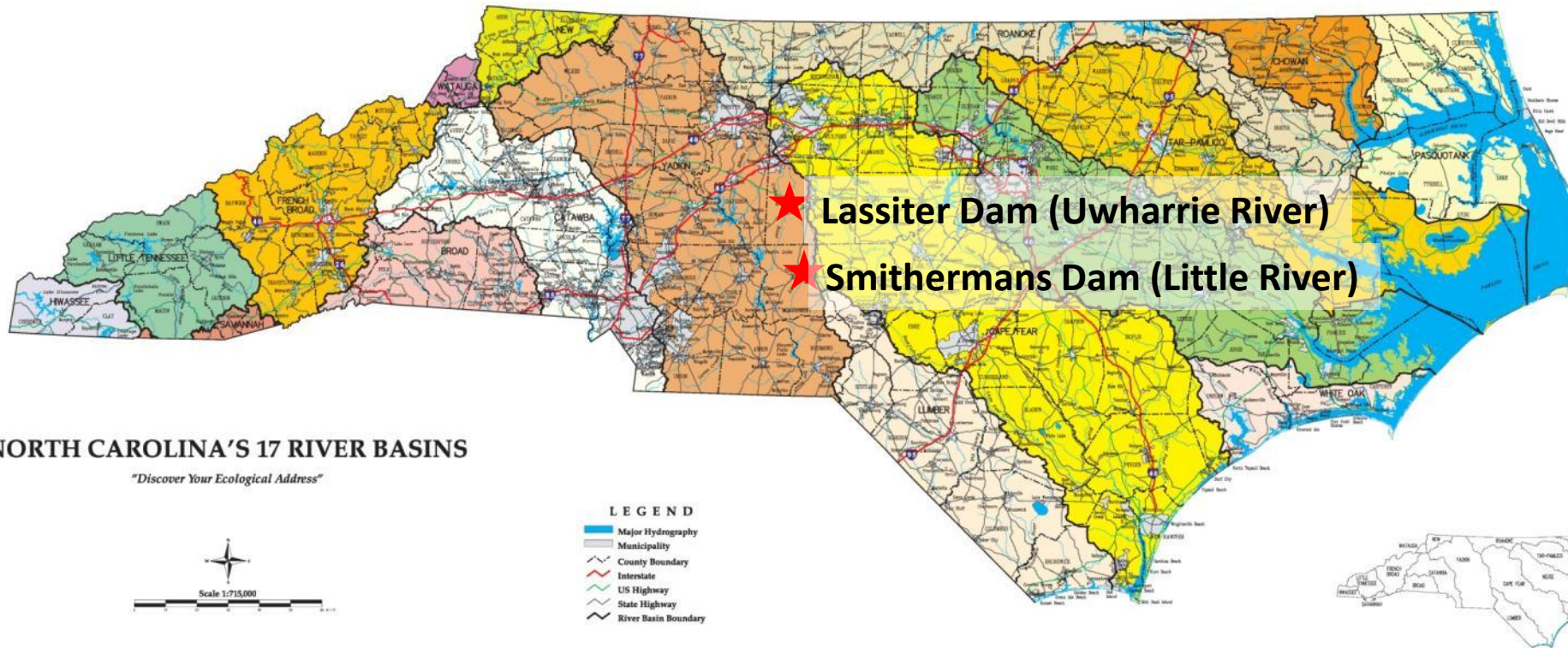
# Project Initiation Steps



1. Project identification & initial recon of key issues
2. Landowner(s) ID and permission
3. Partners and project manager
4. Preliminary engineering input and budgeting
5. Funding

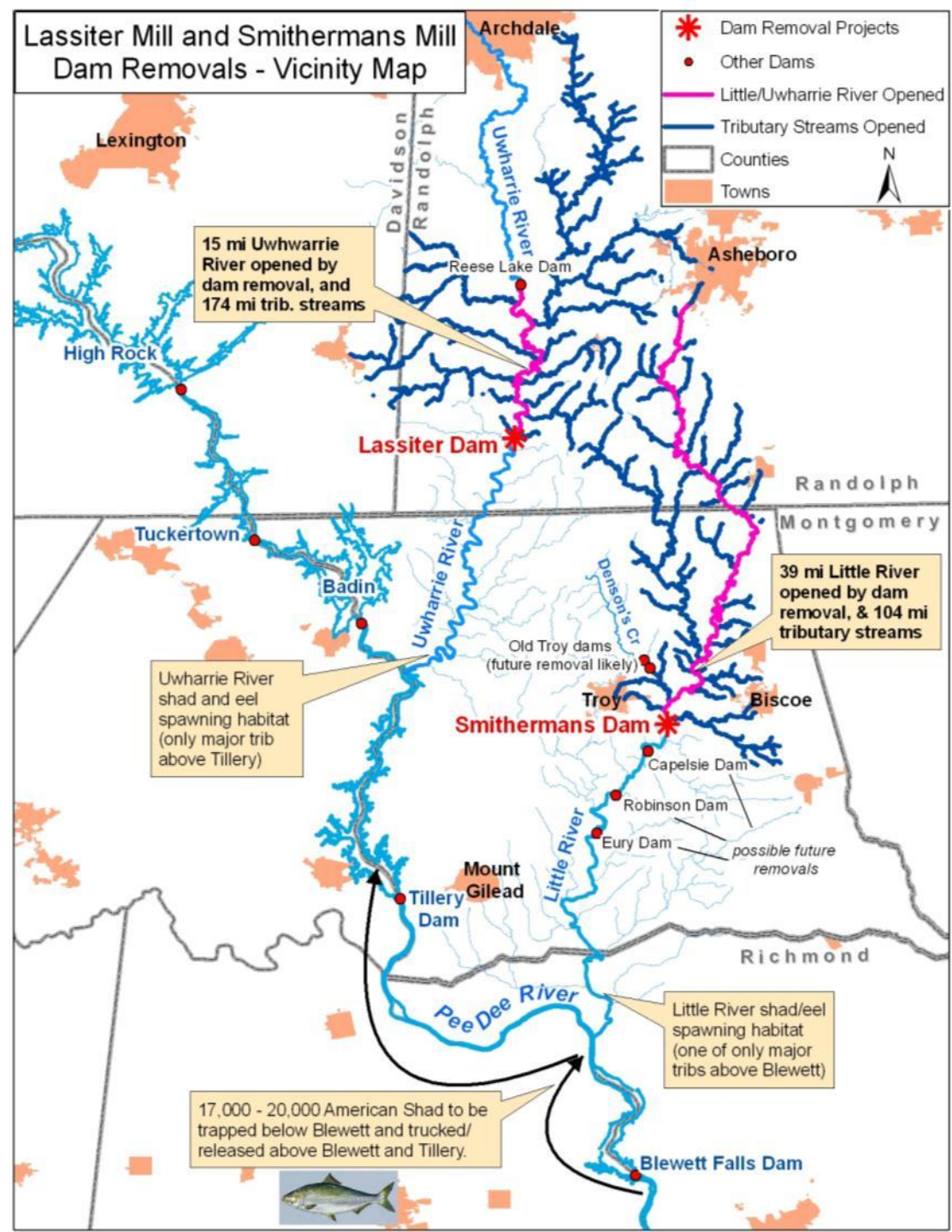
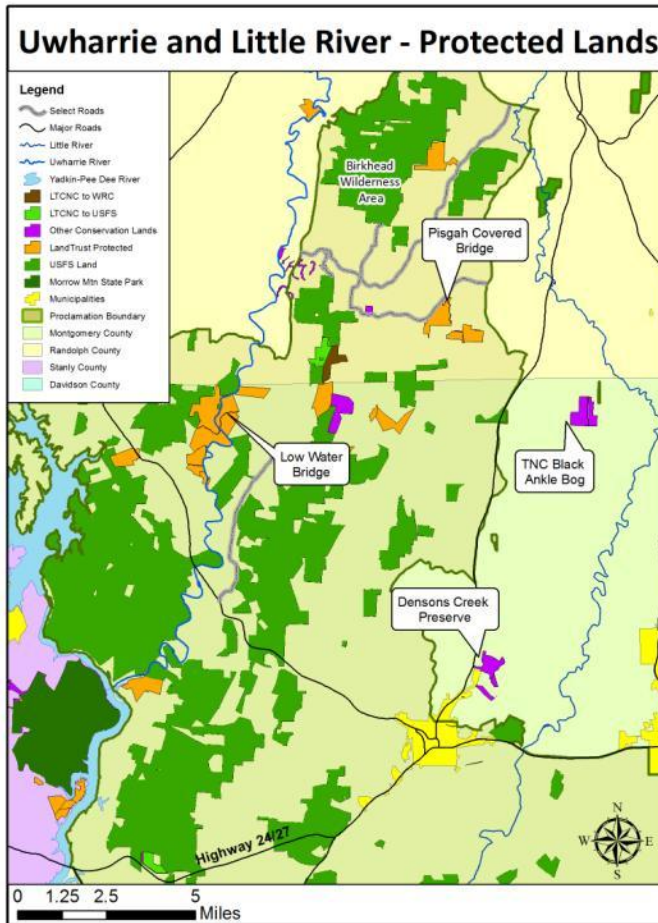


# Two Examples from North Carolina



# Lassiter Mill

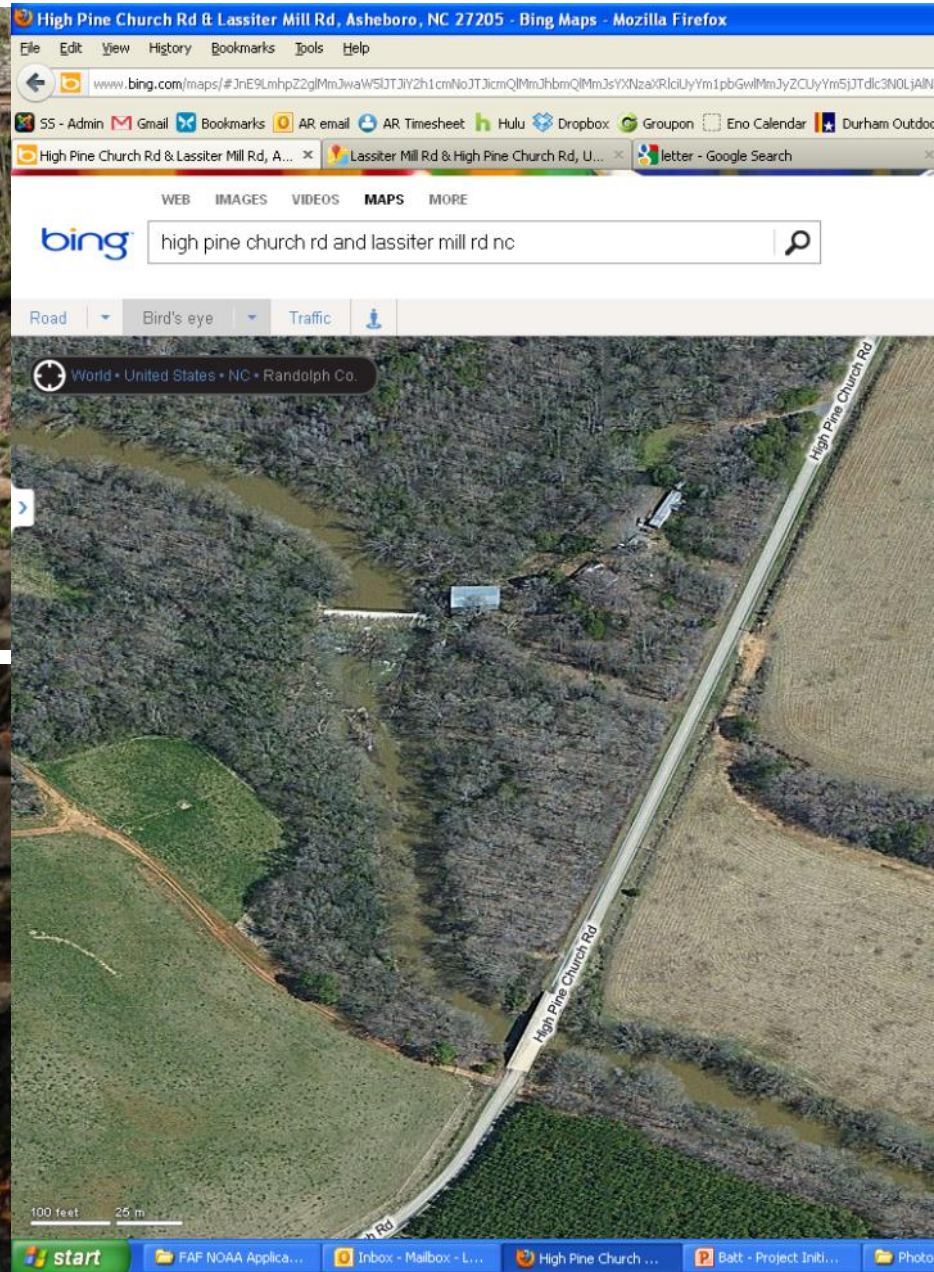
## 1. Project ID and initial recon





# Lassiter Mill

## 1. Project ID and initial recon





# Lassiter Mill

## 2. Landowner ID and permission

### Randolph County, NC - Printable Parcel Map

The data collection used to produce this media was last updated on 4/9/2010 @ 11:33:31 AM EST.

Parcel ID Nbr	7616018703
Owner Name	AMY GRISSOM LLC
Owner Address	421 HEMPSTEAD PL
Owner City/St/Zip	CHARLOTTE, NC 28207
Property Description	R1143,N



### Lassiter Dam Removal, Uwharrie River



### FISHERIES IN 1805

Petition to General Assembly in Raleigh, to save the fisheries on the Uwharrie River in 1805.

To the Honourable the General Assembly of the State of North Carolina at Raleigh now sitting. The Petition of the inhabitants of Montgomery County in s'd State sheweth that the river Uhary is an excellent river for fish especially the white shad but several mill dams being erected across the s'd river entirely obstructs their passage up the same to the great injury of us your petitioners living on the s'd river and contiguous thereto being deprived of the benefits that providence by nature has bestowed upon us we your petitioners therefore do humbly pray the interposition of the Legislature and that you will cause the s'd mill dams or part thereof to be kept open during the spring season in such manner as your honour shall deem best for the free passage of fish yp the s'd river and your petitioners shall ever pray.

1805

Henry Freeman  
Etheldred Harris  
Josiah ? Russell  
James Smith  
James Elliot  
Stephen Grissom  
Stephen Bayley (Bailey)  
Josiah Cranford  
James Bayley (Bailey)  
Wm. Hern  
Moses Russell  
Bibby Brooks  
Asa Callicot  
Wm. Smallwood  
Anthony Rickets  
Joel Mossley  
Ja W. Green  
Neddy Pennington  
Abigah Hilhouse ?  
A. Harris  
Benj. Harris  
William Ashford  
John Ashford





# Lassiter Mill 3. Partners and project manager

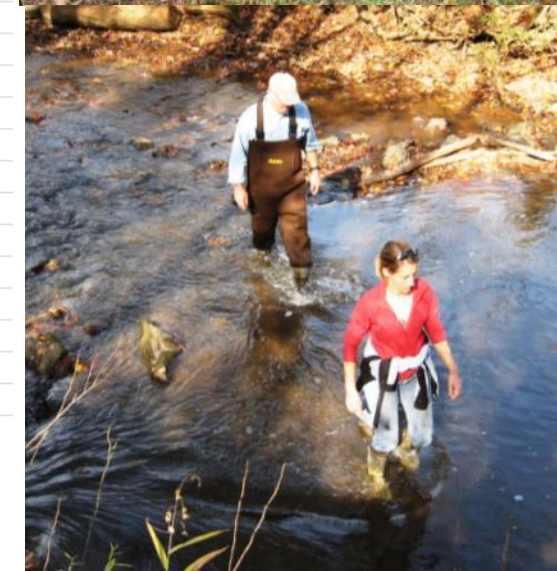




# Lassiter Mill

## 4. Preliminary engineering input and budgeting

Task	Subtask	Cost
<b>Regulatory Coordination and Field Surveys</b>		
<b>Task 1: Preliminary Regulatory Coordination</b>		
	Task 1.a: Natural Resource Regulatory Agency Coordination	\$1,500
	Task 1.b: Cultural and Historical Resource Regulatory Agency Coordination	\$0
<b>Task 2: Field Surveys</b>		
	Task 2.a: - Topographic Surveys	\$4,500
	Task 2.b: - Bathymetric Surveys	\$2,500
	Task 2.c: - Impoundment Geomorphic Survey	\$1,800
	Task 2.d: - Wetland Resource Surveys in and Adjacent to Existing Impoundment	\$2,800
	<b>Sub total</b>	<b>\$13,100</b>
<b>Project Design and Permitting</b>		
<b>Task 4: Dam Removal Design</b>		
	Task 4.a: Base Map Development	\$4,000
	Task 4.b: Project Hydrology	\$2,000
	Task 4.c: Hydraulic Model Development	\$3,500
	Task 4.d: Preliminary Sediment Assessment	\$2,000
	Task 4.e: Conceptual (30-Percent) Design	\$5,000
	Task 4.f: Preliminary (70-Percent) Design	\$7,500
	<b>Sub total</b>	<b>\$24,000</b>
<b>Task 5: Regulatory Coordination and Preparation of Permit Applications</b>		
	Task 5.a: Review of Conceptual Design	\$0
	Task 5.b: Preparation of Draft Permit Applications and permit costs	\$10,000
	Task 5.c: Preparation and Submittal Permit Applications	\$0
	<b>Sub total</b>	<b>\$10,000</b>
<b>Final Design, Specifications, and Bid Documents</b>		
<b>Task 6: Dam Removal Design</b>		
	Task 6.a: Final (95-percent) Design	\$5,000
	Task 6.b: Project Specifications	\$3,000
	Task 6.c: Project Bid Documents	\$3,000
	Task 6.d: Project Construction Bid Solicitation	\$3,000
	<b>Sub total</b>	<b>\$14,000</b>





# Lassiter Mill - Current Budget

- Engineering design: \$61,000 (contracted)
- Permitting: \$5,000 (in-kind)
- Construction: \$192,000 (high estimate, contracted)
- Monitoring: \$15,000 (in-kind)
- Project management: \$27,000 (some in-kind)

TOTAL = \$300,000



# Lassiter Mill

## 5. Funding / Grants

- American Rivers/NOAA (summer 2011): \$66,000
- Partners for Fish and Wildlife (spring 2012): \$110,000
- Fish American Foundation/NOAA (pending): \$75,000
- TOTAL: \$251,000

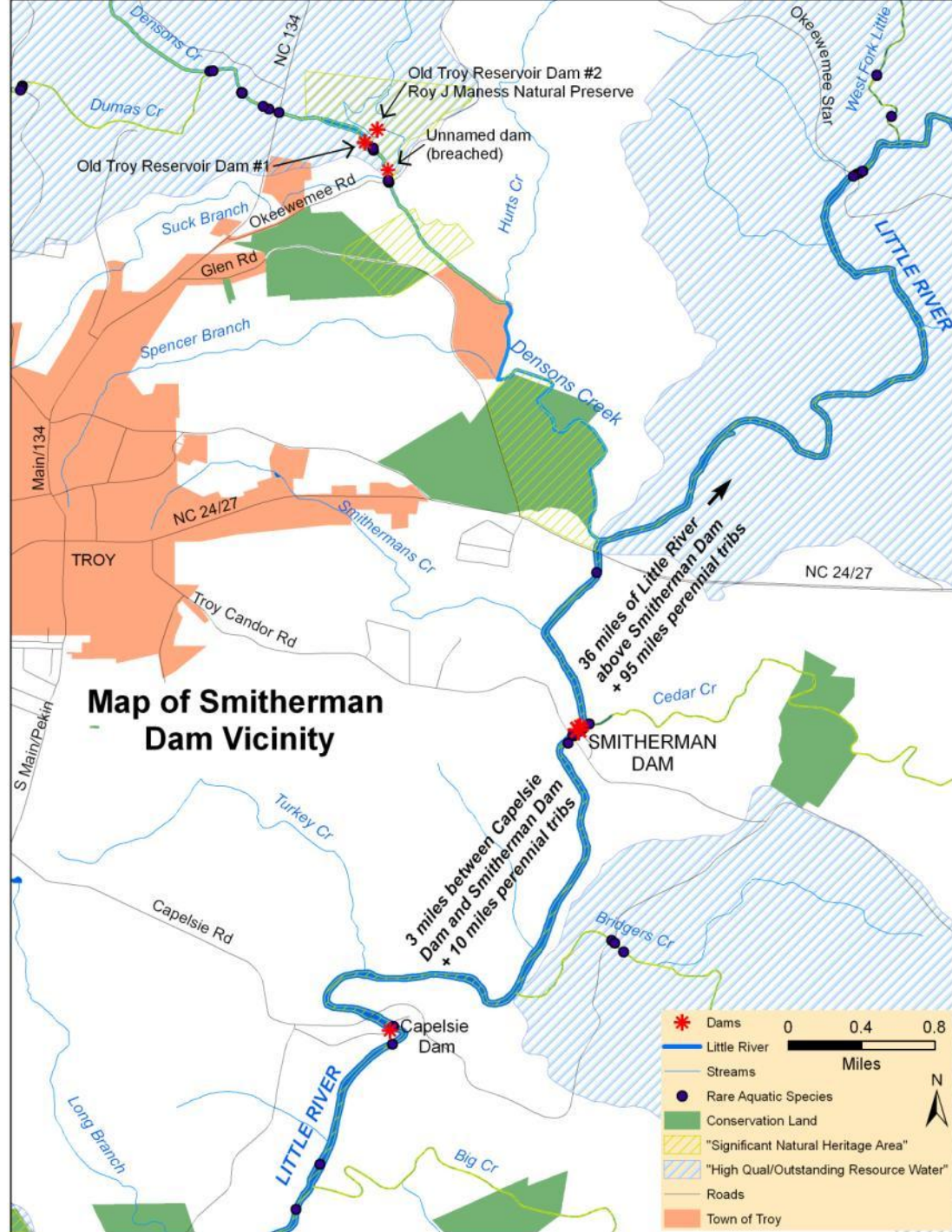
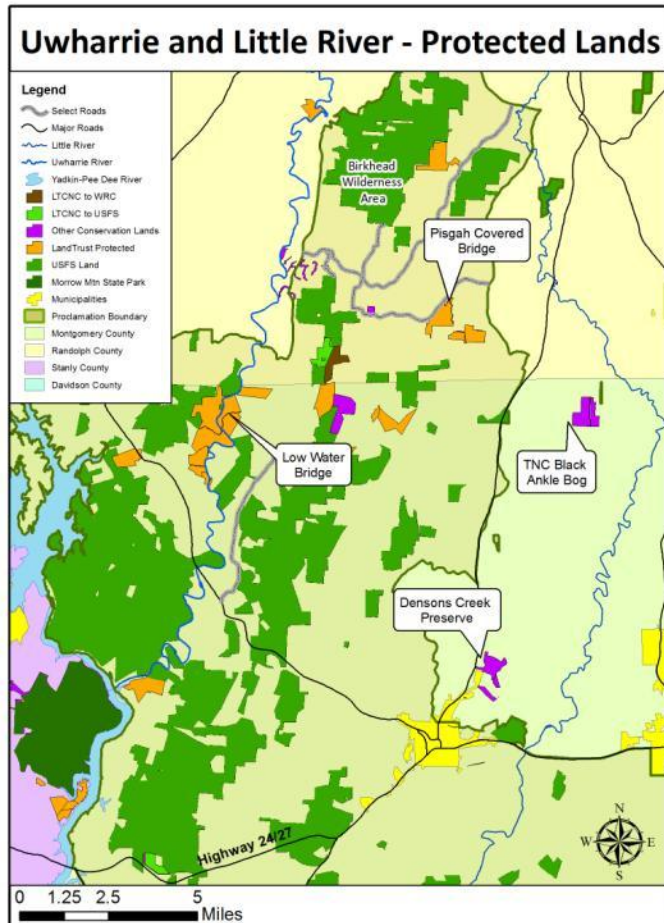
**plus**

- Significant in-kind contributions for project management, permitting and monitoring from AR, PCC, FWS and others



# Smithermans Mill

## 1. Project ID and initial recon





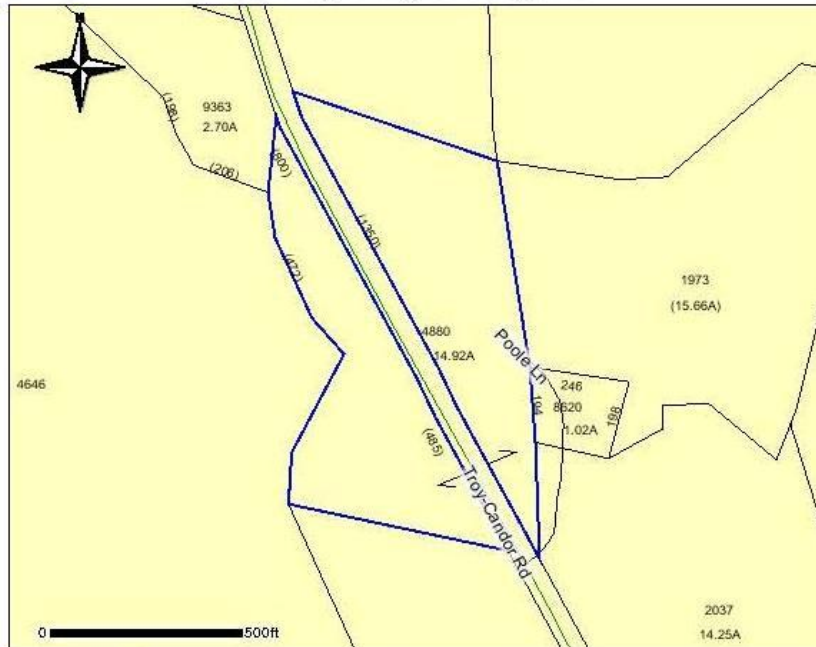
Dynamo Dam  
2.5 mi upstream





# Smithermans Mill 2. Landowner ID & permission

## Montgomery County, NC



**DISCLAIMER:** The information contained on this page is NOT to be construed or used as a description". Map information is believed to be accurate but accuracy is not guaranteed.

### Smitherman Dam parcel

#### Parcels

**Parcel No:** 7548 00 50 4880  
**Parcel Address:** 0 TROY-CANDOR  
**Parcel Owner:**  
TOWN OF TROY  
315 N. MAIN STREET  
TROY, NC 27371  
**Lot Number:** T.E. LASSITER  
**Legal Description:**  
**Deed Reference:** Bk. 586 Pg. 747

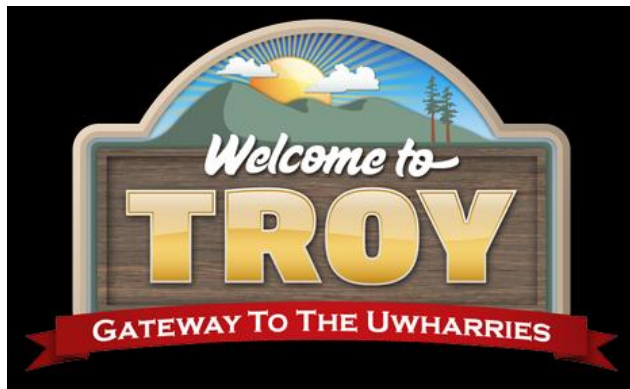
**Land Area:** 14.92 acres  
**Year Built:**  
**Building Value:** \$0  
**Sale Year:** 07  
**Sale Price:** \$0





# Smithermans Mill

## 3. Partners & project manager





# Smithermans Mill

## 4. Preliminary engineering input and budgeting

### PROPOSAL AND SCOPE OF SERVICES

#### Design and Permitting Phase: \$ 47,244.00

will prepare sealed construction drawings for the dam removal and work at the dam site. Construction documents will include the following items:

1. Existing Conditions Plan
2. Demolition & Clearing Plan
3. Deconstruction Sequence
4. Erosion Control Plan
5. Deconstruction Details
5. Erosion Control Details

#### Deconstruction Phase: \$112,880.00

In summary, work will be performed by re-directing flows into the collapsed portion of the dam. Once river flows are directed into the breach, will remove large woody debris jams, sediment, or other material that may be obscuring the upstream base of the dam. Subsequently, the remainder of the dam will be demolished using a combination of hydraulic hammer, grapples, and thumbs until the base of the dam is at or below the elevation of the bedrock floor throughout the cross-section.





# Smithermans Mill – Estimated Budget



- Engineering design & permitting: \$47,000 (contracted)
- Construction: \$125,000 (contracted)
- Monitoring: \$25,000 (some in-kind)
- Project management: \$29,000 (some in-kind)

**TOTAL = \$226,000**



- Fish and Wildlife Service /  
SE Aquatic Resources Partnership (pending): \$51,000
- Partners for Fish and Wildlife (spring 2012): \$65,000
- Other (NC DWR? NOAA?) (future): \$75,000+
- TOTAL: \$191,000+

**plus**

- Significant in-kind contributions for project management, permitting and monitoring from AR, PCC, FWS and others



# Future Opportunities





# Summary of Lessons Learned

- Look for overlap of priority and opportunity
- Consider efficiency of multiple projects
- Develop relationship w/ landowner, speak to their interests
- Have clear PM; allow partner team to evolve
- Work with experienced consultants or partners to develop design scope and budget for grants
- ID funding “hooks” and grant options early; time applications to meet project timeline



A scenic view of a river flowing through a forest. The water is dark and rippled, reflecting the surrounding trees. The banks are lined with trees, some of which have vibrant red and orange autumn leaves. The scene is peaceful and natural.

**Questions?**

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